

**THAT WHICH IS CLAIMED IS:**

1. A digital logic system comprising:
  - a reset input for receiving a reset signal;
  - a clock input for receiving an externally generated main clock signal;
  - an ancillary clock generator for generating an ancillary clock signal having short term frequency stability in relation to an expected duration of a system reset phase;
  - at least one functional circuit;
  - a clock selection multiplexer having a first input for receiving the externally generated main clock signal, a second input for receiving the internally generated ancillary clock signal, and an output for providing the externally generated main clock signal or the internally generated ancillary clock signal to said at least one functional circuit; and
  - a resettable edge-triggered shift register having a first input for receiving the externally generated main clock signal, a second input for receiving the reset signal, and an output connected to said clock selection multiplexer for deselecting the internally generated ancillary clock signal and selecting the externally generated main clock signal after detecting a certain number of edges of the main clock signal following the reset signal.
2. A digital logic system according to Claim 1, wherein said ancillary clock generator comprises a ring/RC oscillator.
3. A digital logic system according to

Claim 1, wherein said resettable edge-triggered shift register comprises a plurality of stages for preventing glitches that may be present on the externally generated main clock signal.

4. A digital logic system according to Claim 1, further comprising a toggle flip-flop between the first input of said resettable edge-triggered shift register and the clock input.

5. A digital logic system according to Claim 1, wherein a frequency of the ancillary clock signal is less than a frequency of the main clock signal.

6. A digital logic system comprising:  
a reset input for receiving a reset signal;  
a clock input for receiving an externally generated main clock signal;  
an ancillary clock generator for generating an ancillary clock signal;  
a clock selection multiplexer having a first input for receiving the externally generated main clock signal, a second input for receiving the internally generated ancillary clock signal, and an output for providing the externally generated main clock signal or the internally generated ancillary clock signal; and  
a shift register having a first input for receiving the externally generated main clock signal, a second input for receiving the reset signal, and an output connected to said clock selection multiplexer for deselecting the internally generated ancillary clock signal and selecting the externally generated

main clock signal after detecting a certain number of edges of the main clock signal following the reset signal.

7. A digital logic system according to Claim 6, wherein said ancillary clock generator comprises a ring/RC oscillator.

8. A digital logic system according to Claim 6, wherein said shift register comprises a plurality of stages.

9. A digital logic system according to Claim 6, further comprising a toggle flip-flop between the first input of said shift register and the clock input.

10. A digital logic system according to Claim 6, wherein a frequency of the ancillary clock signal is less than a frequency of the main clock signal.

11. A digital system comprising:  
a reset circuit for generating a reset signal;  
a main clock generator for generating a main clock signal;  
an ancillary clock generator for generating an ancillary clock signal;  
at least one functional circuit;  
a clock selection multiplexer having a first input for receiving the main clock signal, a second input for receiving the ancillary clock signal, and an

output for providing the main clock signal or the ancillary clock signal to said at least one functional circuit; and

a resettable edge-triggered shift register having a first input for receiving the main clock signal, a second input for receiving the reset signal, and an output connected to said clock selection multiplexer for deselecting the ancillary clock signal and selecting the main clock signal after detecting a certain number of edges of the main clock signal following the reset signal.

12. A digital system according to Claim 11, wherein said ancillary clock generator comprises a ring/RC oscillator.

13. A digital system according to Claim 11, wherein said shift register comprises a plurality of stages.

14. A digital system according to Claim 11, further comprising a toggle flip-flop between the first input of said shift register and said main clock generator.

15. A digital system according to Claim 11, wherein a frequency of the ancillary clock signal is less than a frequency of the main clock signal.

16. A method for resetting a digital logic system comprising a reset input for receiving a reset signal and a clock input for receiving an externally generated main clock signal, the method comprising:

generating an ancillary clock signal;  
providing the externally generated main clock signal and the ancillary clock signal to respective first and second inputs of a clock selection multiplexer, and providing at an output of the clock selection multiplexer the externally generated main clock signal or the ancillary clock signal to at least one functional circuit; and

providing the externally generated main clock signal and the reset signal to respective first and second inputs of a resettable edge-triggered shift register, and an output of the resettable edge-triggered shift register being connected to the clock selection multiplexer for deselecting the ancillary clock signal and selecting the externally generated main clock signal after the resettable edge-triggered shift register detects a certain number of edges of the main clock signal following the reset signal.

17. A method according to Claim 16, wherein the ancillary clock generator comprises a ring/RC oscillator.

18. A method according to Claim 16, wherein the resettable edge-triggered shift register comprises a plurality of stages.

19. A method according to Claim 16, wherein the digital logic system further comprises a toggle flip-flop between the first input of the resettable edge-triggered shift register and the clock input.

20. A method according to Claim 16, wherein

a frequency of the ancillary clock signal is less than  
a frequency of the main clock signal.